

Abstract of the Invention

The invention, in one embodiment, is directed to a catheter assembly adapted to enable an operator to incise a human ureter from within, with reduced risk of damaging a crossing blood vessel. The dilation catheter includes an elongated body and a dilatable bladder. The dilatable bladder is adapted to dilate in a radially outward direction from the elongated body. A thermally responsive indicator incorporated with at least a portion of the dilation member exhibits a state change in response to a change in temperature. A temperature change indicates the existence of a nearby crossing vessel. In a surgical method, an operator repeatedly positions and inflates the dilatable bladder in a human ureter proximal to a desired incision location to map the location of any crossing vessels. The operator then determines an inner wall incision location that avoids the detected crossing vessels.

2175091